The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIDEFUMI FUJIMOTO, KAZUO TAKAHASHI, KOJI TAKEDA, KEISUKE TANAKA, ETSUO OGINO, KENJI MORI, and MASAHIRO HIRATA

Appeal No. 2006-0588
Application No. 09/857,382

HEARD: MARCH 23, 2006

Before WARREN, WALTZ, and FRANKLIN, Administrative Patent Judges.

FRANKLIN, Administrative Patent Judge.

ON REQUEST FOR REHEARING

Appellants have filed a Request for Rehearing (hereinafter "Request") in connection with our Decision mailed March 31, 2006.

Beginning on page 3 of the Request, appellants repeat the argument presented in their Brief that there is a fundamental difference between their claimed invention and Tada because one of ordinary skill in the art would not have had a reasonable expectation of success of transferring surface roughness of an underlying photocatalytic layer to an overcoat layer based upon the teachings of Tada or the prior art as a whole. Request, pages 3 through 4. On pages 4-5 of the Request, Appellants similarly argue that Tada does not present the concept of transferring the surface roughness of an underlying layer to an overcoat layer as a concept generally applicable to any situation. Appellants argue that Tada only discusses this process in association with formation of a surface roughness of a photocatalytic layer. We are unconvinced with this line of argument for the following reasons.

Tada clearly suggests that an underlying layer is made having metal oxide fine particles to achieve a certain mean roughness. This roughness is transferred to a photocatalytic film (the overcoat layer).[1] The photocatalytic film in Tada can be of the kind listed in column 2, lines 48 through 50, which includes titanium dioxide. In appellants' claim 1, the overcoat layer can be a titanium oxide. Hence, it is not unreasonable to expect a likelihood of success in transferring surface roughness to the same kind of material as claimed by appellants (titanium oxide). Tada teaches that the titanium oxide photocatalytic film can be dented and projected by transferring the surface roughness from an underlying layer. See col. 5, lines 44 through column 6, line 45 of Tada.

On page 4 of the Request, appellants argue that, according to their claimed invention, a long lasting anti-fogging film is achieved by simply depositing rutile tin oxide on an untreated substrate (untreated with respect to a particular surface roughness), and directly applying thereon, an overcoat layer of a material having a surface polarity opposite to that of the tin oxide, and selected from a small group of oxides, and having a surface roughness within a specified range. Appellants argue this simple structure is not suggested by Tada's more complex anti-fogging /stain-proof article. Appellants argue that Tada requires extra processing to achieve the desired surface roughness either by formation of the alkali shut-off layer to have a desired roughness which transfers through to the photocatalytic film or special processing of the photocatalytic layer after it is deposited. Request, page 4.

As discussed in our Decision on pages 4-5, Tada teaches the concept of utilizing an underlying layer having a surface roughness for imparting a surface roughness to an overlayer (this is discussed, supra, also). Hence, Tada teaches how one skilled in the art can achieve surface roughness in an overlying layer in a simple manner.

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[1] Appellants recognized (on page 10 of the brief) that Tada teaches the idea of transferring surface roughness from an underlayer to an overlying layer. See col. 5, lines 44 through 48 of Tada.

Beginning on page 5 of the Request, appellants argue that the mere fact that tin oxide may have a rutile crystal structure (as made evident by the secondary reference of Komatsu)[2], does not mean that a layer of tin oxide will necessarily have such a crystal structure regardless of how the layer is formed. We are not convinced by this argument. It is clear that one of ordinary skill in the art is aware that tin oxide can have a rutile crystal structure. Hence, one skilled in the art would have found it obvious to have chosen such a crystal structure of tin oxide if one skilled in the art desired to transfer its surface roughness to an overlying layer. As discussed, supra, Tada teaches the idea of transferring surface roughness.

Appellants also argue that the proposed modification is directly contrary to Tada's first requirement of high photocatalytic activity. As noted on page 7 of our Decision, the secondary reference of Komatsu teaches that titanium oxide or tin oxide can be used as the photocatalyst layer. Also see the paragraph bridging pages 3-4 of the Answer. We indicated that the preference for titanium oxide does not render ineffective the teaching by Komatsu of the use of tin oxide has a photocatalyst layer. The combined teachings of the references suggest use of tin oxide as a photocatalyst layer. Selecting rutile tin oxide when it is desired to transfer its surface roughness to an overlying layer would have been obvious for the reasons discussed, supra.

Appellants argue that none of the references disclose or suggest that a layer of tin oxide deposited on any given substrate surface will have an appropriate surface roughness that may be transferred to an overlying layer of organosiloxide, SiOx, or the like. Request, page 5. We again refer to our comments, supra, on this issue. We emphasize that while Tada does not use a rutile crystal structure of tin oxide to impart the surface roughness to an overlying layer, Tada teaches that a surface roughness can be imparted to an overlying layer by using an underlayer have a certain surface roughness. Charged with this knowledge, one skilled in the art would have found it obvious to impart a surface roughness of an underlayer to an overlying layer,

[2] On page 2 of the Request, appellants state that a printout of 2 pages from a website attached to the Decision is not being formally applied by the Board. This is correct. This print-out was merely supportive/cumulative of the teachings of Komatsu as discussed by the examiner.

whether that underlayer be of the type used in Tada or of rutile tin oxide. For example, as taught by Tada, certain materials are selected in making the underlying layer to achieve a certain mean roughness, which then dictates the resultant mean roughness of the overlying layer. See, for example, column 6, line 19 through 34 of Tada. Tada teaches the grain size of metal oxide fine particles that is preferred which provide favorable results.

Beginning on pages 6-7 of the Request, appellants argue points 4-6, and submit that the applied art, when properly considered as a whole, does not suggest the invention of claim 1. Appellants argue that the applied references do not teach the anti-fogging coating achieved by claim 1 which is produced by an obviously simple process (use of a rutile tin oxide film as the underlying layer).

We remind appellants that the claims are not process claims but product claims which require a tin oxide layer having a rutile structure formed on a surface of the substrate, and an overcoat layer on the surface of the tin oxide layer, having a particular surface polarity and a mean surface roughness. As discussed above, the applied art suggests such subject matter.

Hence, there are no arguments in the Request which convince us of any error in our decision mailed March 31, 2006. We therefore deny appellants' Request.

DENIED

CHARLES F. WARREN)
Administrative Patent Judge)
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THOMAS A. WALTZ)
Administrative Patent Judge) BOARD OF PATENT
)
) APPEALS AND
)
) INTERFERENCES
BEVERLY A. FRANKLIN)
Administrative Patent Judge)

BAF/hh

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